CLAIMS

1. A method of manufacturing an optical attenuator from optical fibers, end regions of two optical fibers being placed with a lateral or transverse offset and having their end surfaces located at each other, the region at the end surfaces being heated to make the ends melt to each other and the heating thereafter being continued until substantially a desired optical loss is obtained in the melted region, whereafter finally the melted region is allowed to cool, **characterized in** that the heating is interrupted for an optical loss exceeding the desired loss by a value calculated from measurements of the loss for this splice or for a splice between identical fibers having the same initial offset.

2. A method according to claim 1, **characterized in** that the measurements are made by temporarily interrupting the continued heating during at least one time period before the heating is finally stopped and by measuring the loss at this at least one time period.

3. A method according to claim 2, **characterized in** that the measurements are made at at least two interrupts of the continued heating.

4. A method according to claim 2, **characterized in** that the measurements are made by measuring the loss at the beginning of and at the end of the at least one interrupt.

5. A method according to claim 1, **characterized in** that the result of the measurements is used to determine at least one parameter or constant characterizing an individual function in a group of functions.

6. A method according to claim 5, **characterized in** that the group of functions includes linear function characterized by two constants.

7. A device for manufacturing an optical attenuator having a desired optical loss from optical fibers comprising

- retainer and alignment means for retaining and moving two end region of optical fibers,
- heating means for heating the region at the end surfaces of the fibers in the end regions,
- loss measuring means for measuring optical loss for light propagating from one of the end regions to the other one, and
- control means connected to the retainer and alignment means, the heating means and the loss measuring means arranged to first control the retainer and alignment means to place the end regions with a lateral or transverse offset and with the end surfaces thereof at each other, to thereafter control the heating means to bring regions of the fibers at the end surfaces to melt to each other and to thereafter continue the heating, to receive during the continued heating measured values of the optical loss from the loss measuring means and to control the heating means to stop the continued heating depending on the measured values of the optical loss, **characterized in** that the control means are arranged to control the heating means to stop the continued heating when the optical loss measured by the loss measuring means exceeds the desired loss by a value calculated from previous

measurements of the optical loss for this splice or for a splice between identical fibers having the same initial offset.

8. A device according to claim 7, **characterized in** that the control means are arranged to control the heating means to temporarily interrupt the continued heating during at least one time period before the continued heating is finally stopped.

9. A device according to claim 8, **characterized in** that the control means are arranged to temporarily interrupt the continued heating during at least two different time periods.

10. A device according to claim 8, **characterized in** that the control means are arranged to use as the previous measurements values of the optical loss at the beginning of and at the end of the at least one time period.

11. A device according to claim 7, **characterized in** that the control means include calculating means to which the measured values are provided and which are arranged to use the values to determine at least one parameter or constant characterizing an individual function in a group of functions.

12. A device according to claim 11, **characterized in** that the calculating means are arranged to use as the group of functions linear functions characterized by two constants.